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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/033,316	12/28/2001	Marc R. Amling	02580- P0030A	9649

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EXAMINER
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DURNFORD GESZVAIN, DILLON

ART UNIT	PAPER NUMBER
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2622

DATE MAILED: 08/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/033,316	AMLING ET AL.	
	Examiner	Art Unit	
	Dillon Durnford-Geszvain	2622	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 June 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4, 7-20, 23-26 and 28-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-20, 23-26 and 28-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2622.

#### ***Continued Examination Under 37 CFR 1.114***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/13/2006 has been entered.

#### ***Response to Amendment***

3. Claims **1-4, 7-20, 23-26** and **28-41** are pending, claims **25** and **34** are amended and claims **5, 6, 21, 22, 27** and **42-48** have been cancelled.

#### ***Response to Arguments***

4. Applicant's arguments with respect to claims **1, 15, 25** and **34** have been considered but are moot in view of the new ground(s) of rejection.

#### ***Claim Rejections - 35 USC § 102***

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims **15** and **19** are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,046,769 (Ikeda et al.).

As to claim **15**, Ikeda et al. teaches a video imaging system (100 and 140, see Fig. 1) comprising: a camera control unit 140 for processing an image signal (CCD OUT); a cable SL, connected to said camera control unit 140, for transmitting the image signal to said camera control unit 140; and a camera head 100, connected to said cable SL, for providing the image signal, said camera head including: an imager 103, for generating the image signal; and a timing generator 108, generating a timing signal particular to said camera head, the timing signal actuating said imager and sent to said camera control unit (see Column 8 lines 29-48 and note that "the CCD information including (among other information) ... information indicating which, NTSC or PAL[.]" As is well known in the art NTSC operates at 30 fps and PAL operates at 24 fps, this indicates the timing of the camera head and is sent to the control unit, see Column 8 lines 42-46); said camera control unit 140 programmed based at least in part upon said timing signal particular to said camera head (see Column 8 lines 46-48, note that the "program is suitable for CCD 103" meaning that it is based on the timing of the head, i.e. NTSC or PAL); wherein a plurality of camera heads, each with different timing signals, are attachable to said camera control unit (note that if one head is attachable then another head must necessarily be attachable).

As to claim **19**, see the rejection of claim **15** and note that Ikeda et al. further teaches the video imaging system according to claim **15** wherein said camera head 100 further comprises a processor 110.

***Claim Rejections - 35 USC § 103***

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims **1, 3, 4, 10 and 11** rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,046,769 (Ikeda et al.) in view of US 6,870,566 (Koide et al.) and US 6,753,901 (Takahashi et al.).

As to claim **1**, Ikeda et al. teaches a video imaging system (100 and 140, see fig. 1) comprising: a camera control unit 140 for processing an image signal; a cable SL, connected to said camera control unit 140, for transmitting the image signal to said camera control unit 140; and a camera head 100, connected to said cable SL, for providing the image signal, said camera head 100 including: an imager 103, for generating an analog image signal; a timing generator 108, generating a timing particular to said camera head, the timing signal actuating said imager and sent to said camera control unit 140 (see Column 8 lines 29-48 and note that "the CCD information including (among other information) ... information indicating which, NTSC or PAL[.]" As is well known in the art NTSC operates at 30 fps and PAL operates at 24 fps, this indicates the timing of the camera head and is sent to the control unit, see Column 8

lines 42-46); said camera control unit programmed at least in part upon said timing signal particular to said camera head (see Column8 lines 46-48, note that the "program is suitable for CCD 103" meaning that it is based on the timing of the head, i.e. NTSC or PAL).

Ikeda et al. does not teach that the camera head includes an A/D converter in the camera head 100, instead the image signal is converted when it reaches the CCU 140 by A/D 151. However, Koide et al. teaches a video imaging system (11 and 12, see Fig. 1) that converts the image signal from analog to digital before transmitting it from the camera head 11 to the camera control unit 12. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have moved A/D 151 from the CCU 140 to the camera head 100 as the image signal would be converted to a digital signal before being transmitted and this would reduce the effects of noise on the image signal as digital signals are more resistant to noise than analog signals.

Ikeda et al. does not teach that the camera head includes a serializer, however Takahashi et al. teaches an endoscopic imaging system where the video signal is passed through a serializer 26 (see Fig. 2) before being passed on to a display device. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included a serializer in the camera head of Ikeda et al. in view of Koide et al. as this would allow for the use of a minimum number of conductors for passing the signal from the camera head to the camera control unit and would thus allow for the cable connecting the two to be made smaller and therefore further easing the discomfort of a person on which the endoscope is being used.

As to claim 3, see the rejection of claim 1 and note that Ikeda et al. further teaches that the camera head further comprises a processor 110.

As to claim 4, see the rejection of claim 3 and note that Ikeda et al. teaches a memory device, (contained as part of image sensing controller 110) accessible by said processor 110, containing camera head information (Column 8 lines 37-41).

9. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,046,769 (Ikeda et al.) in view of US 6,870,566 (Koide et al.) and US 6,753,901 (Takahashi et al.) further in view of US 6,573,931 (Horii et al.).

As to claim 2, see the rejection of claim 1 and note that what neither Ikeda et al. nor Koide et al. teaches is a multiplexer contained in a camera head which transmits a multiplexed signal including image data and control data. However, Horii et al. teaches a camera head 150 containing a multiplexer 115 for transmitting a multiplexed signal containing image data and control data (Column 2 lines 1-5).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added the multiplexer taught by Horii et al. to the video imaging system taught by Ikeda et al. in view of Koide et al. as this would allow for using less wires and would allow for a smaller cable.

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10. Claims 7-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,449,007 (Ikeda et al.) in view of US 6,870,566 (Koide et al.) and US 6,753,901 (Takahashi et al.) as applied to claim 1 further in view of US 6,836,290 (Chung et al.).

As to claim 7, see the rejection of claim 1 and note that Ikeda et al., Koide et al. and Takahashi et al. have been discussed above. What none of the above teaches is using digital serial drivers to transmit data from a camera head to a camera control unit. However, Chung et al. teaches an imager utilizing at least one digital serial driver 54 (Column 2 lines 28-36).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the digital serial driver taught by Chung et al. to transmit signals in the system taught by Ikeda et al. in view of Koide et al. and Takahashi et al. as this is a low power system that allows for the use of differential signals that are resistant to EMI noise.

As to claim 8, see the rejection of claim 1 and note that note that Ikeda et al., Koide et al. and Takahashi et al. have been discussed above. What none of the above teaches is using digital serial receivers to receive data from a camera control unit at a camera head. However, Chung et al. would have considered using a receiver 56 in a camera head if two-way communication between the camera head and camera control unit was desired instead of one-way communication between an imager and an image processor.

Therefore it would have been obvious to one of ordinary skill in the art at the time



the invention was made to have used a receiver as taught by Chung et al. in the camera head as taught by Ikeda et al. in view of Koide et al. and Takahashi et al. as this would provide a lower power and noise resistant form of communication.

As to claim **9**, see the rejection of claim **7** and note that Chung et al. further teaches the driver 54 utilizing Low-Voltage Differential Signals (LVDS) (Column 2 lines 27-37).

As to claim **10**, see the rejection of claim **8** and note that Chung et al. teaches the receiver 56 utilizing LVDS (Column 2 lines 27-37).

As to claim **11**, see the rejection of claim **1** and note that Ikeda et al., Koide et al. and Takahashi et al. have been discussed above. What none of the above teaches is using a digital serial driver in the camera control unit. However, Chung et al. teaches using digital serial drivers and receivers to communicate between an imager and an image processor. If two-way communication were desired, Chung et al. would have considered using digital serial drivers to communicate both ways. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the digital serial drivers taught by Chung et al. to perform communication between the camera control unit of Ikeda et al. in view of Koide et al. and Takahashi et al. as it is a low power noise resistant form of communication. This would include both communications from the camera head to the camera control unit and from the camera

control unit to the camera head.

As to claim **12**, see the rejection of claim **1** and note that Chung et al. teaches an image processor with at least one digital serial receiver for receiving signals from an imager (Fig. 4 and Column 2 lines 27-37). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a receiver similar to that taught by Chung et al. in the system taught by Ikeda et al. in view of Koide et al. and Takahashi et al. as it is a low power communication method that is resistant to noise from EMI.

As to claim **13**, see the rejection of claim **11** and note that Chung et al. further teaches digital serial drivers utilizing LVDS.

As to claim **14**, see the rejection of claim **12** and note that Chung et al. further teaches digital serial receivers utilizing LVDS.

11. Claim **16** is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,449,007 (Ikeda et al.) in view of US 6,870,566 (Koide et al.).

As to claim **16**, see the rejection of claim **15** and note that as discussed above Ikeda et al. does not teach the camera head 100 comprising a converter for converting an analog image signal to a digital image signal. However, as discussed above Koide et al. teaches a video imaging system (11 and 12, see Fig. 1) that converts the image

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signal from analog to digital before transmitting it from the camera head 11 to the camera control unit 12. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have moved A/D 151 from the CCU 140 to the camera head 100 as the image signal would be converted to a digital signal before being transmitted and this would reduce the effects of noise on the image signal as digital signals are more resistant to noise than analog signals.

12. Claim **18** is rejected under 35 U.S.C. 103(a) as being unpatentable over 6,046,769 (Ikeda et al.) in view of US 6,753,901 (Takahashi et al.).

As to claim **18**, see the rejection of claim **15** and note that what Ikeda et al. does not teach that the camera head includes a serializer, however Takahashi et al. teaches an endoscopic imaging system where the video signal is passed through a serializer 26 (see Fig. 2) before being passed on to a display device. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included a serializer in the camera head of Ikeda et al. as this would allow for the use of a minimum number of conductors for passing the signal from the camera head to the camera control unit and would thus allow for the cable connecting the two to be made smaller and therefore further easing the discomfort of a person on which the endoscope is being used.

13. Claim **17** is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,046,769 (Ikeda et al.) in view of US 6,573,931 (Horii et al.).

As to claim **17**, see the rejection of claim **15** and note that what Ikeda et al. does not teach is a multiplexer for generating a multiplexed signal including an image signal and a control signal. As discussed above in the rejection of claim **2**, Horii et al. teaches a multiplexer for creating a multiplexed signal containing image data and control data. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the multiplexer taught by Horii et al. into the system taught by Ikeda et al. as this would allow the cable to be thinner as only one line would need to pass through it.

14. Claim **20** is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,046,769 (Ikeda et al.) in view of US 6,638,212 (Oshima).

As to claim **20**, see the rejection of claim **19** and note that what Ikeda et al. teaches has been discussed above. What Ikeda et al. does not teach is a memory device contained in the camera head and accessible by the processor containing camera head information. However, Oshima teaches an endoscope having a nonvolatile memory 20, contained in the camera head 2 and accessible by processor 21, containing camera head information (Column 6 lines 60-63). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added a nonvolatile memory containing camera head information as taught by Oshima to the camera head taught by Ikeda et al. as this would allow the camera head to store such information as the make and model as well as how many times it has been

used and who used it.

15. Claims **23** and **24** are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,046,769 (Ikeda et al.) in view of US 6,836,290 (Chung et al.).

As to claims **23** and **24**, Ikeda et al. does not teach using serial drivers and receivers utilizing LVDS as the means for transmitting signals. However, Chung et al. teaches sending signals with a digital serial driver 54 on an imager 50 to a digital serial receiver 56 in an image processor 52 using LVDS. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used digital serial drivers and receivers utilizing LVDS to transmit signals from the camera head to the CCU as LVDS is resistant to EMI and is a low power method of sending signals.

16. Claims **25** and **28** are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,449,007 (Yokoyama) in view of US 6,870,566 (Koide et al.) and US 6,753,901 (Takahashi et al.).

As to claim **25**, Yokoyama teaches a video imaging system comprising: a camera control unit 10 for processing a digital image signal; a cable 8, connected to said camera control unit 10, for transmitting the digital image signal to said camera control unit 10; and a camera head 9, connected to said cable 8, for providing the digital image signal, said camera head 9 including: an imager 61, for generating an analog image signal (Column 4 lines 23-35).

What Yokoyama does not teach is the camera head including a converter for converting the analog signal into a digital image signal. However, as discussed above in the rejection of claim 1 Koide et al. teaches an analog to digital converter 103 in an image sensing unit 11 that converts the image data to digital image data before it is transmitted to a computer 12. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have moved the analog to digital converter of Yokoyama from the CCU 10 to the camera head 9 as taught by Koide et al. as converting the image data from analog to digital before transmission makes the signal more resistant to noise as digital signals are more resistant to noise than are analog signals.

Yokoyama does not teach that the camera head includes a serializer, however Takahashi et al. teaches an endoscopic imaging system where the video signal is passed through a serializer 26 (see Fig. 2) before being passed on to a display device. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included a serializer in the camera head of Yokoyama in view of Koide et al. as this would allow for the use of a minimum number of conductors for passing the signal from the camera head to the camera control unit and would thus allow for the cable connecting the two to be made smaller and therefore further easing the discomfort of a person on which the endoscope is being used.

As to claim 28, see the rejection of claim 25, and note that Yokoyama further teaches the video imaging system according to claim 25 wherein said camera head 9

further comprises a processor 1 (Column 4 lines 36-37).

17. Claim **26** is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,449,007 (Yokoyama) in view of US 6,870,566 (Koide et al.) and US 6,753,901 (Takahashi et al.) as applied to claim **25** further in view of US 6,573,931 (Horii et al.).

As to claim **26**, see the rejection of claim **25** and note that what neither Yokoyama nor Koide et al. in view of Takahashi et al. teach is a multiplexer for generating a multiplexed signal, which includes a digital image signal and control signals. However, as discussed in the rejection of claim **2** above, Horii et al. teaches a camera head 150 with a multiplexer 115 for transmitting a multiplexed signal containing image data and control data (Column 2 lines 1-5).

18. Claims **29-31** are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,449,007 (Yokoyama) in view of US 6,870,566 (Koide et al.) and US 6,753,901 (Takahashi et al.) as applied to claim **25** and claim **28** further in view of US 6,638,212 (Oshima).

As to claim **29**, see the rejection of claim **28** and note that what none of Yokoyama, Koide et al. or Takahashi et al. teach is the camera head including a memory device, accessible by the processor, containing camera head information. However, as discussed in the rejection of claim **4**, Oshima teaches a memory 20 storing camera head information (Column 6 lines 60-63). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added the

memory of Oshima to the system taught by Yokoyama in view of Koide et al. and Takahashi et al. as this would allow the camera head to store such information as the make and model as well as how many times it has been used and who used it.

As to claims **30**, see the rejection of claim **25** and note that what none of Yokoyama, Koide et al. or Takahashi et al. teach is formatting the camera control unit with inputted data. However, Oshima teaches formatting the way that the camera control unit reads the data according to inputted data (Column 29 lines 16-25). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added the function of changing the camera control unit settings according to inputted data as taught by Oshima to the video imaging apparatus taught by Yokoyama in view of Koide et al. and Takahashi et al. as this would allow an endoscope to be quickly formatted to read data from a camera head correctly without trial and error.

As to claim **31**, see the rejection of claim **30** and note that that Oshima further teaches the inputted data coming from the camera head (Column 29 lines 16-25).

19. Claims **32-33** are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,449,007 (Yokoyama) in view of US 6,870,566 (Koide et al.) and US 6,753,901 (Takahashi et al.) as applied to claim **25** further in view of US 6,836,290 (Chung et al.).



What Yokoyama, Koide et al. and Takahashi et al. teach has been discussed above. What they don't teach is digital serial receivers and drivers using LVDS as the means for communicating between the camera head and the CCU. However, as discussed in the rejection of claims 7-14 above, Chung et al. teaches using digital serial drivers and receivers utilizing LVDS to communicate between an imager and an image processor (Column 2 lines 27-37).

20. Claims 34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,870,566 (Koide et al.) in view of US 6,753,901 (Takahashi et al.).

As to claim 34, Koide et al. teaches a video imaging system (11 and 12, see Fig. 1) comprising: a camera control unit 12 for processing a digital image signal; a cable, connected to said camera control unit, for transmitting the digital image signal to said camera control unit (although it is not shown there must be a connection between 11 and 12); and a camera head 11, connected to said cable, for providing the digital image signal, said camera head including: an imager 102, for generating a digital image signal (CCD 102 generates an analog image that is converted to digital by a converter 103).

What Koide et al. does not teach that the camera head includes a serializer, however Takahashi et al. teaches an endoscopic imaging system where the video signal is passed through a serializer 26 (see Fig. 2) before being passed on to a display device. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included a serializer in the camera head of Koide et al. as this would allow for the use of a minimum number of conductors for passing the

signal from the camera head to the camera control unit and would thus allow for the cable connecting the two to be made smaller and therefore further easing the discomfort of a person on which the endoscope is being used.

As to claim **36**, see the rejection of claim **34** and note that Koide et al. further teaches the video imaging device of claim **34** wherein said camera head 11 comprises a processor 104.

21. Claim **35** is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,870,566 (Koide et al.) in view of US 6,753,901 (Takahashi et al.) further in view of US 6,573,931 (Horii et al.).

As to claims **35**, see the rejection of claims **34** and note that what Koide et al. does not teach is a multiplexer contained in a camera head which transmits a multiplexed signal including image data and control data. However, Horii et al. teaches a camera head 150 containing a multiplexer 115 for transmitting a multiplexed signal containing image data and control data (Column 2 lines 1-5).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added the multiplexer taught by Horii et al. to the video imaging system taught by Koide et al. in view of Takahashi et al. as this would allow for using less wires and would allow for a smaller cable.

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22. Claim **37-39** are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,870,566 (Koide et al.) in view of US 6,753,901 (Takahashi et al.) further in view of US 6,638,212 (Oshima).

As to claim **37**, see the rejections of claim **36** and note that what Koide et al. and Takahashi et al. do not teach is a memory device, accessible by said processor, containing camera head information. However, Oshima teaches a non-volatile memory 20 contained in camera head 2 and accessible by processor 21 containing camera head information (Column 6 lines 60-63).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added a memory containing camera head information to the camera head taught by Koide et al. in view of Takahashi et al. as this would allow the make, model, number of times used and other such information to be easily accessed by a CCU which would allow the settings to be automatically set for the specific head being used.

As to claim **38**, see the rejection of claim **34** and note that what Koide et al. in view of Takahashi et al. does not teach an inputting data to format the camera control unit. However, Oshima teaches formatting a CCU according to data inputted from a camera head (Column 29 lines 16-25). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have formatted a CCU using data inputted from an outside source such as a camera head as this would allow the settings to optimized for the camera head being used and would eliminate the need

for a user to input all of the settings every time a different camera head is used which would save time.

As to claim **39**, see the rejection of claim **38** and note that Oshima teaches the inputted data coming from the camera head (Column 29 lines 16-25).

23. Claims **40** and **41** are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,870,566 (Koide et al.) in view of US 6,753,901 (Takahashi et al.) further in view of US 6,836,290 (Chung et al.).

Koide et al. and Takahashi et al. do not teach using serial drivers and receivers utilizing LVDS as the means for transmitting signals. However, Chung et al. teaches sending signals with a digital serial driver 54 on an imager 50 to a digital serial receiver 56 in an image processor 52 using LVDS. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used digital serial drivers and receivers utilizing LVDS to transmit signals from the camera head to the CCU as LVDS is resistant to EMI and is a low power method of sending signals.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dillon Durnford-Geszvain whose telephone number is (571) 272-2829. The examiner can normally be reached on Monday through Friday 8 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc-Yen Vu can be reached on (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dillon Durnford-Geszvain

8/17/2006

A handwritten signature in black ink, appearing to read 'Ngoc-Yen Vu', with a long horizontal flourish extending to the right.

NGOC-YEN VU  
SUPERVISORY PATENT EXAMINER